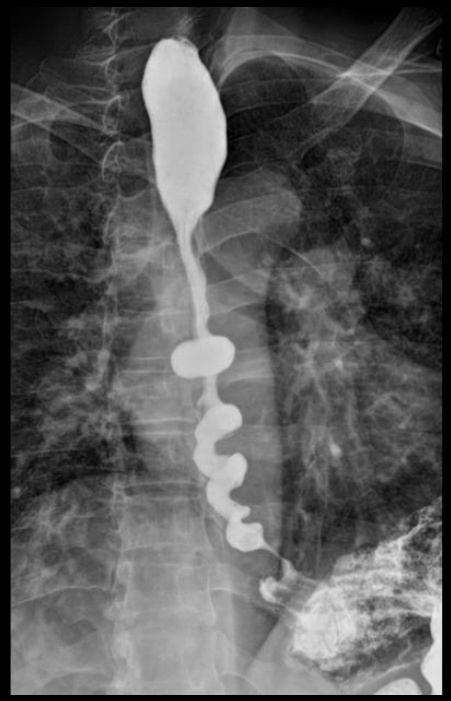
High Yield Surgery Review Part 2: GI, Vascular, Endo, Derm

By Mike, Quinn, Jackson



Niknejad M, Diffuse esophageal spasm. Case study, Radiopaedia. https://doi.org/10.53347/rID-82943

Niknejad M, Achalasia. Case study, Radiopaedia. https://doi.org/10.53347/rID-89229

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DermNetNZ https://dermnetnz.org/topics/keratoacanthoma

Strudel Surgery Review Part 2

By Mike, Quinn, Jackson

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Abdominal Anatomy

Upper vs Lower GI?

Ligament of Trietz

Retroperitoneal Structures?

SAD PUCKERS

Suprarenal (adrenals), aorta/IVC, duodenum (2^{nd}+3^{rd}), pancreas, ureters, colon (ascending and descending), kidneys, esophagus, rectum

Intraperitoneal structures?

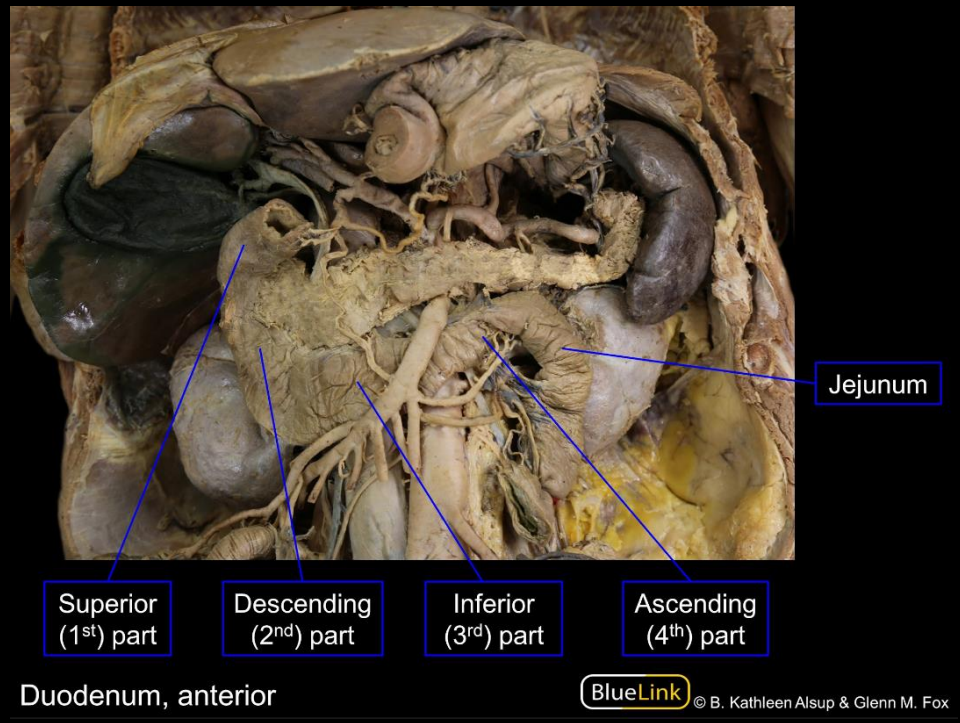
Stomach, spleen, liver, 1^{st} and 4^{th} segments of duodenum, jejunum, ileum, transverse colon, sigmoid colon

Transition between small intestine to colon? Narrowing of lumen here

Ileocecal valve

Watershed areas?

Splenic flexure, rectosigmoid



BlueLink UMichigan

40 yo G4P4 with recurrent RUQ pain after eating fatty/spicy foods. Pain resolves spontaneous after 2 hours . BMI is 30, vital signs and physical exam in the ED are unremarkable

Most likely dx?

Symptomatic cholelithiasis (biliary colic)

Risk factors?

Obesity, Female, Multiparity/Pregnancy, Age >40, Malabsorption, TPN

Pathophys?

Fatty food triggers CCK release which leads to gallbladder contraction against an obstructed cystic duct

Tx?

Elective cholecystectomy

Same patient (presents with recurrent RUQ pain after eating fatty/spicy foods) with: Temp 100.4, HR 110, abrupt arrest of inspiration with RUQ palpation.

Diagnosis?

Acute cholecystitis

Physical exam finding?

Murphy's sign

US findings?

Gallstones, Gallbladder wall thickening, pericholecystic fluid, sonographic Murphy's sign

Tx for both?

IV abx and urgent cholecystectomy

Subtypes

US shows air within the gall bladder wall

Emphysematous choleycstitis

Seen in immunocompromised (diabetic), caused by gas-forming bacteria (Clostridium), life threatening

Similar patient presentation, US w/ no evidence of stones

Acalculous cholecsystitis, seen in severely ill patients (sepsis, organ failure, burns)

Tx: abx, cholecystectomy vs percutaneous cholecystotomy

Cholecystitis Subtypes

US shows air within the gall bladder wall

Emphysematous cholecystitis

Seen in immunocompromised (diabetic), caused by gas-forming bacteria (Clostridium), life threatening

Treatment?

Tx: Broad spectrum abx, emergent cholecystectomy

Similar patient presentation, US w/ no evidence of stones

Acalculous cholecsystitis, seen in severely ill patients (sepsis, organ failure, burns)

Tx: abx, cholecystectomy vs percutaneous cholecystostomy

35 yo male presents with scleral icterus, Temp: 100.5, PE demonstrates tenderness to the RUQ on palpation

Most likely dx?

Acute cholangitis

Charcot's triad? Reynold's Pentad?

Jaundice, fever, RUQ pain, hypotension, mental status changes

Not sensitive (patients may have cholangitis w/o clinically obvious jaundice)

What if patient has similar symptoms, but no fever?

Choledocolithiasis

Causes of biliary obstructive jaundice?

gallstones, biliary strictures, malignancy (cholangiocarcinoma) parasites (*Ascaris lumbricoides*), biliary stents

Why jaundice?

Build up of conjugated (direct) bilirubin in the liver and blood. Filtered by kidneys – dark urine

Labs and imaging?

Elevated WBC, Elevated bilirubin (direct), Cholestatic pattern (Alk Phos > AST/ALT)

US –common bile duct dilation (may seen biliary stones – not very sensitive)

Tx?

IV abx, ERCP

- Followed by cholecystectomy if cholelithiasis is present

Subtypes of biliary tract disease

Patient w/ hx of recurrent cholelithiasis, presents with abdominal pain, distension, and N/V. X-ray shows pneumobilia.

Dx?

Gallstone ileus due to biliary enteric fistula

Subtypes of biliary tract disease

Patient w/ RUQ pain, fever, jaundice. Abdominal CT shows large stone in the cystic duct. Dx?

Mirizzi’s syndrome-external compression of hepatic duct

Subtypes of biliary tract disease

Patient with previous cholecystectomy, now presenting with their previous symptoms. US and CT show no evidence of biliary stones. Sx are worse opioids.

Sphincter of Oddi dysfunction

Dx and Tx?

Manometry

Sphincterotomy via ERCP

31 yo G2P2 w/ RUQ discomfort and pruritus.

Most likely Dx?
Primary biliary cholangitis
Pathophys?
Autoimmune destruction of INTRAhepatic bile ducts
Classic presentation
Female, Fatigue, pruritus, RUQ pain, hepatomegaly, jaundice, dark urine.

Labs?
Cholestatic pattern
US findings?
Generally normal
Antibody?
Positive anti mitochondrial antibodies
Tx?
Ursodeoxycholic acid

40 yo male w/ RUQ pain. Temp: 100.4, exam shows scleral icterus. PMHx significant for hematochezia.

Dx?

Primary sclerosing cholangitis

Significance of the bloody stools?

Ulcerative colitis

Antibody?

Perinuclear anti-neutrophil cytoplasmic antibodies (pANCA)

MRCP is preformed, what would we see?

Beads on a string, dilation/constriction of intra and extra hepatic bile ducts

Biopsy is done to confirm. What is the “classic” finding.

Onion skin fibrosis

Next step in management?

Colonoscopy (90% of patients with PSC have IBD)

Ursodiol

ERCP with dilation of the strictures

Long term complications?

10-15% risk of cholangiocarcinoma

Choledocal cyst

Epidemiology

- Asian
- Often <10

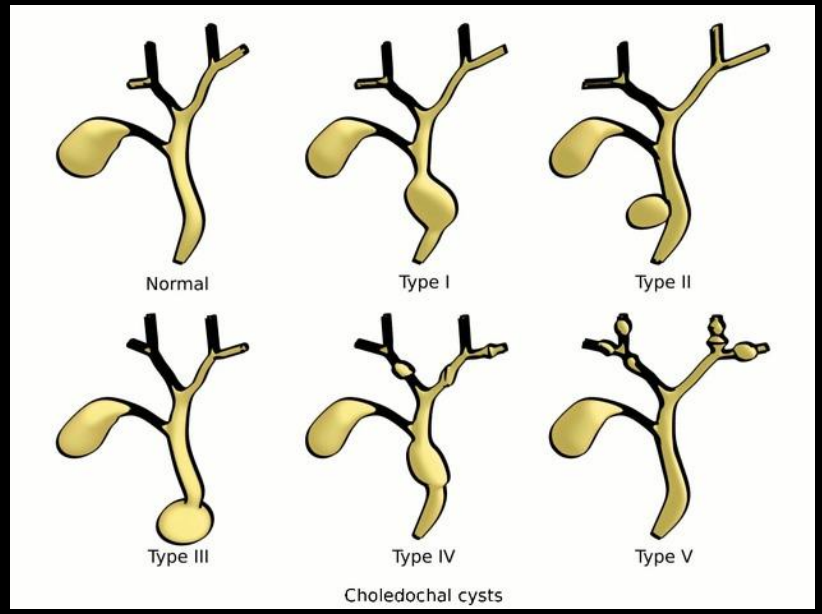
Presents with obstructive symptoms, palpable mass

Dx

- US or CT

Tx

- Removal due to risk malignant transformation



https://radiopaedia.org/articles/choledochal-cyst?lang=us#:~:text=Choledochal%20cysts%20are%20rare%2C%20with,greater%20prevalence%20in%20East%20Asia.

Cholangiocarcinoma

- Well differentiated adenocarcinoma

Risk factors

- PSC
- Liver fluke infection
- Viral hepatitis
- Liver cirrhosis

Gallbladder cancer

- Adenocarcinoma or squamous cell (10%)

Risk factors

- Cholelithiasis with chronic inflammation
- Porcelain gall bladder
- Chronic cholecystitis
- Gallbladder polyps

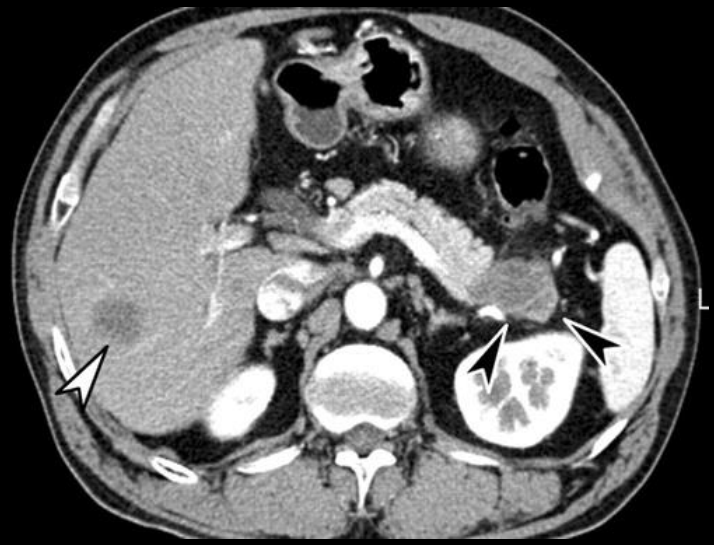
41 year old woman presents with severe epigastric pain with associated N/V. She has had similar episodes of pain in the past associated with fatty meals.

Dx?
Acute gallstone pancreatitis
Pathophys?
Intrapancreatic activation of enzymes due to obstruction (gallstone)
Direct injury to pancreatic acinar cells (alcohol)
Common causes
Gallstone (40%), alcohol (30%), hypertriglyceridemia drugs (steroids, diuretics, valproate), trauma
I GET SMASHED
Classic clinical features?
Epigastric pain radiating toward the back
Worse after meals, N/V.
Physical exam?
Epigastric tenderness
Cullen sign – periumbilical ecchymosis
Grey Turner sign – flank ecchymosis
Fox sign – ecchymosis over the inguinal ligament
Do we need imaging?
Not necessarily. Clinical diagnosis
2/3 to make diagnosis
Classic abdominal pain
Pancreatic enzymes >3x normal
- Lipase, amylase
CT imaging findings
What is more sensitive/specific?
Lipase

Characterisitc CT findings
Parenchymal edema
Fat stranding
Peripancreatic free fluid
Tx
IV fluids
Pain control
Manage underlying pathology
Perform chole during that hospitalization
Complications?
Local
Necrotizing pancreatitis
Pancreatic pseudocyst
Abdominal compartment syndrome
- Increased intra abdominal pressure
- Tight distended abdomen, N/V
- Decrease cardiac output – end organ dysfunction

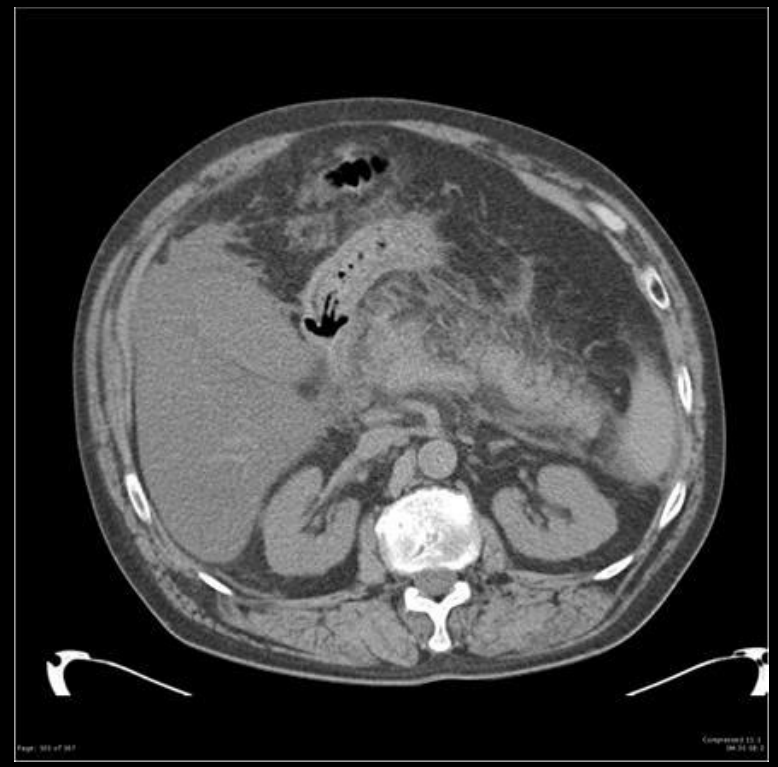
Systemic
ARDS, Pleural effusion, Sepsis, DIC

Pancreatic CT imaging



Normal (adenocarcinoma)

Pancreatic pseudocyst



Acute pancreatitis (fat stranding)

(https://radiopaedia.org)

65 year old man with a history of significant alcohol use. Presents with recurrent abdominal pain, diarrhea, and recent night blindness?

Dx?

Chronic pancreatitis

Pathophys?

Chronic inflammation and autodigestion of pancreatic tissue w/ progression to fibrosis.

Risk factors?

Chronic alcohol use (most common), tobacco, hypertriglyceridemia.

Genetic risk factor?

Cystic fibrosis

Significance of the GI symptoms and night blindness?

Exocrine enzyme deficiency

- Steatorrhea
- Malabsorption of fat-soluble vitamins (D, A, K, E)

Dx

CT

Imaging findings?

Pancreatic ductal dilations

Calcifications

Pancreatic function tests

- Fecal elastase -1
  - <100 = exocrine insufficiency
- Direct measurements
  - Give cerulein (CCK analog) and secretin
  - Measure enzyme levels

Tx

Enzyme replacement

Pain control

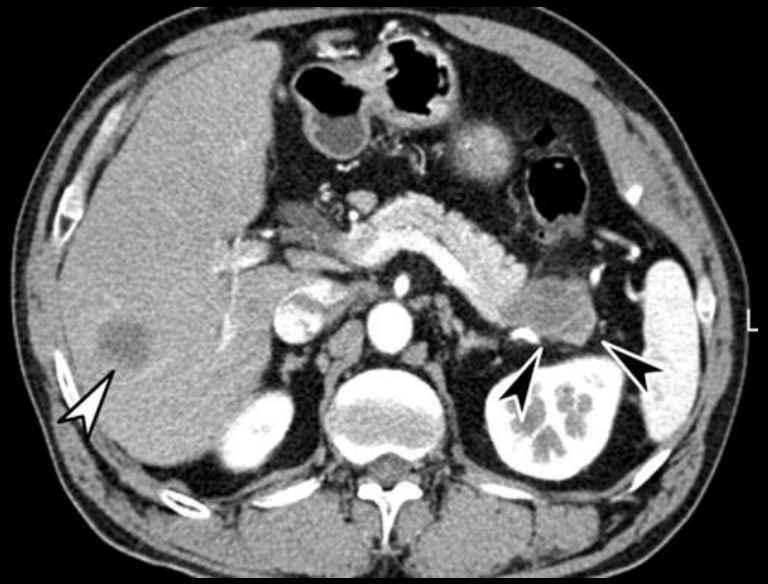
- Celiac ganglion block

Manage underlying conditions (e.g. alcohol abstinence)

Complications

- Pseudocyst
- Pancreaticogenic diabetes
- Malabsorption
- Ascites
- Pancreatic adenocarcinom

Pancreatic CT imaging



Adenocarcinoma

Chronic pancreatitis (ductal dilation + calcifications)

(https://radiopaedia.org)

70 yo female w/ a 50 pack-year smoking history presents to the clinic for routine checkup. Physical exam shows jaundice and nontender RUQ mass.

Dx?

Pancreatic adenocarcinoma

Risk factors

Smoking history, chronic pancreatitis, high ETOH consumption, age >50

Classic clinical features?

Painless jaundice, epigastric pain, systemic sx (fatigue, weight loss, decreased appetite)

Physical exam findings?

Courvoisier sign – enlarged non tender gallbladder w/ painless jaundice

Trousseau sign of malignancy – migratory thrombophlebitis (not to be confused w/ Trousseau sign of hypocalcemia)

Labs

CA 19-9 (marker of cancer progression)

CEA (less specific)

Imaging?

Abdominal CT

Tx?

Head

Whipple procedure

Tail

Resection of body/tail often w/ concomitant splenectomy

If unresectable?

Biliary stent and chemo

Esophagus

35 yo male w/ HIV. Last CD4 count was 49. Presents with odynophagia, EGD shows linear ulcers. Dx?

CMV esophagitis

Biopys?

Atypical lymphocytes, intranucelar inclusion bodies (owl-eye)

Tx

IV ganciclovir

35 yo male w/ HIV. Last CD4 count was 49. Presents with odynophagia, EGD shows well circumscribed "punched-out" ulcers

Dx?

HSV esophagitis

Biopsy

Multinucleated giant cells, ground-glass nuclei, eosinophilic inclusions

Tx

Acyclovir

35 yo male w/ HIV. Last CD4 count was 98. Presents with odynophagia, EGD shows yellowish mucosal plaques.

Dx

Candida esophagitis

Tx

Azoles (fluconazole, voriconazole)

Esophagus (pt 2)

65 yo woman with a recent diagnosis of osteoporosis presents with dysphagia and retrosternal pain

Dx

Pill esophagitis

Risk factors

Bisphosphonates, NSAIDs, iron

Prevention

Take with food/water, standing up

HSS.com

5 yo presents w/ drooling, hematemesis after they were unsupervised in the kitchen

Corrosive esophagitis (caustic)

Risk factors

Children <5, suicidal ideation

Dx

Endoscopy indicated if symptomatic or evidence of oral burns

Tx

Observe if asx

Nasogastric tube if extensive circumferential burns

NO Neutralizing agents or activated charcoal

Complications

Esophageal perforation

Respiratory compromise

Esophagus

21 y/o college student was out at last night for their birthday. Multiple episodes of vomiting now with severe retrosternal pain. Crepitus is palpated.

Dx?

Esophageal perforation. Boerhaave syndrome

May also be secondary to recent upper endoscopy

Imaging

CXR – widened/pneumo mediastinum

Contrast esophagography (gold standard) – consider Gastrographin over Barium with suspected perforation

Chest CT

Tx

Conservative initially: NPO, PPI, IV abx

Surgical indications?

Hemodynamic instability, deterioration despite conservative management

21 y/o college student presenting after several episodes of vomiting. Noticed hematemesis with last episode, severe retrosternal pain. No crepitus or subQ emphysema on exam.

Dx?

Mallory Weiss tear

Tests?

EGD (gold standard)

Tx

Antiemetic

PPI

60 year old w/ halitosis. Barium esophagram shown below

https://radiopaedia.org/

Dx

Zenker diverticulum

Pathophys

Weak point in the muscular wall of the esophagus between the thyropharyngeal and cricopharyngeal parts of the pharyngeal constrictors

Tx

Surgery indicated for symptomatic

Endoscopy vs open

51 yo male w/ chest pain, nighttime cough, hoarseness, dental erosions.

Dx
GERD
Classic clinical presentation
Epigastric pain, dyspepsia, dysphagia, regurgitation, retrosternal pain

Risk factors
Smoking, obesity, pregnancy, stress
Tests
Clinical, 24 intraesophageal pH monitoring (gold standard)
Management
Lifestyle changes, PPI/H2 receptor blocker

Same patient did not improve with PPI, has had symptoms for years.
Next steps?
EGD
Biopsy shows metaplastic columnar epithelium with goblet cells
Barrett esophagus

Patient with hx of GERD now has dysphagia with solid foods. Dx?

Esophageal stricture (Schatzki's ring)

Treatment?

EGD with esophageal dilation

Patient with hx of GERD now has dysphagia, odynophagia, anemia, weight loss. Dx?

Esophageal adenocarcinoma

Risks

GERD, Barret esophagus, smoking

Tests

EGD, Barium swallow

CT for staging

Tx

Chemoradiation, surgical resection

Patient with hx of alcohol use disorder now has dysphagia, odynophagia, anemia, weight loss. Dx?

Esophageal squamous cell carcinoma

Risks

Alcohol, smoking, HPV

Child with stridor, wheezing, dysphagia with solid foods. Dx?

Vascular ring

Gaillard F, Vascular ring. Case study, Radiopaedia.org (Accessed on 22 Sep 2024) https://doi.org/10.53347/rID-7459

Gastroesophageal junction

51 yo male with a history of severe GERD. Imaging is shown below

Dx

Hiatal hernia

More severe

- Paraesophageal hernia

Surgical treatment?

Nissen fundoplication

Associated ulcer?

Cameron ulcer

Niknejad M, Sliding hiatal hernia. Case study, Radiopaedia.org (Accessed on 22 Sep 2024) https://doi.org/10.53347/rID-91073

Gastroesophageal junction

51 year old with chest pain after eating. Imaging shown

Dx?

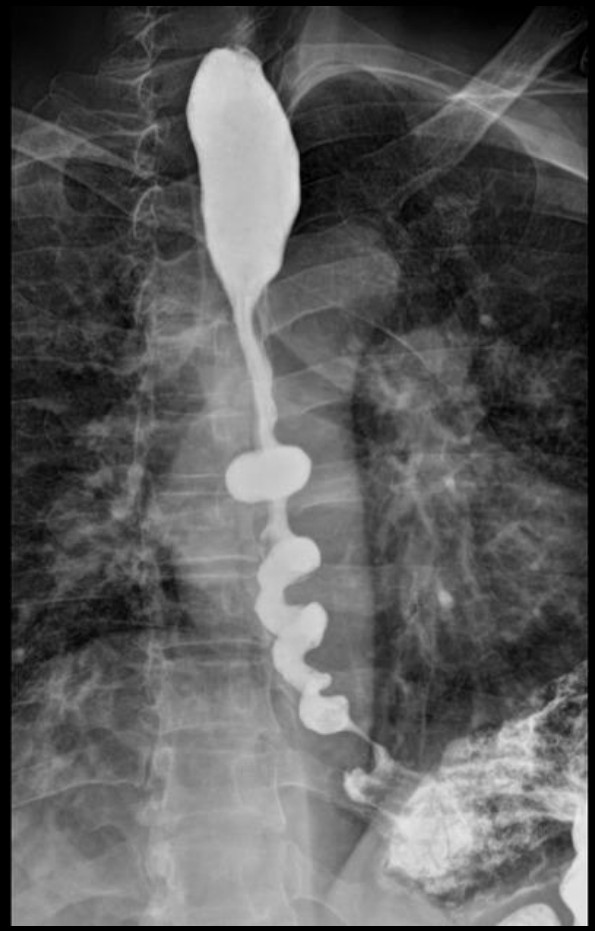
Diffuse esophageal spasm

Tx

Small meals, nitrates, CCB

Peppermint oil

Botox, dilation, surgery



Niknejad M, Diffuse esophageal spasm. Case study, Radiopaedia.org (Accessed on 22 Sep 2024) https://doi.org/10.53347/rID-82943

Gastroesophageal junction

51 year old progressive dysphagia to solids and liquids. Image below?

Dx?

Achalasia

Pathophys

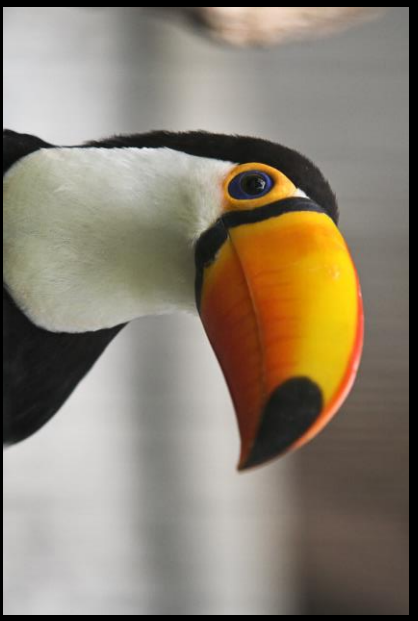
Atrophy of inhibitory neurons (Auerbach plexus)

Tx?

Similar to esophageal spasms-botox, myotomy

Heller myotomy

Niknejad M, Achalasia. Case study, Radiopaedia.org (Accessed on 22 Sep 2024) https://doi.org/10.53347/rID-89229



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Something in the Stomach

51 yo woman with hx of significant alcohol use and severe knee arthritis. Presents with epigastric pain and dyspepsia

Dx

Acute gastritis

Test/Tx

PPI trial, NSAID and alcohol cessation. If no improvement further workup

51 yo woman immigrated from Mexico 6 years ago. Presents with epigastric pain. Trial of PPI provides limited benefit

Dx

H. Pylori gastritis

Classic anatomical region

Stomach antrum

Tests

Urea breath test, EGD

Tx

PPI, Amoxicillin, Macrolide (clarithryomycin)

51 yo woman with epigastric pain. Exam demonstrates peripheral neuropathy. Hgb 10.1, MCV 110.

Dx

Atrophic gastritis (autoimmune gastritis)

Pathophys

Fundus of the stomach. Destruction of parietal cells (no intrinsic factor)

39 yo male presents with gnawing epigastric pain. He states the pain is worse after meals.

Peptic ulcer (gastric)

Risks

H. Pylori, NSAID

Test

EGD – biopsy is necessary in gastric ulcers due to risk of assoc. malignancy

39 yo male presents with gnawing epigastric pain. He states the pain improves after meals.

Duodenal ulcer

Risks

More often associated w/ H. Pylori. Much lower risk of assoc. malignancy

39 yo male with gnawing epigastric pain. EGD reveals multiple jejunal ulcers

Gastrinoma (Zollinger Ellison)

Pathophys

Hypergastrinemia – stimulation of parietal cells – increased acid

Confirmatory Tests

Serum gastrin - >1000

Secretin stimulation test (secretin should inhibit gastrin secretion)

Patient with severe burn is admitted to the surgical ICU. Did not receive one indicated prophylaxis medication. Patient now with hematemesis. Dx?

Curling ulcer

Pathophys

Decreased plasma volume, hypoxic tissue injury

Prophylaxis

PPI

Patient w/ severe head injury now with hematemesis. Dx

Cushing ulcer

Pathophys

Increased vagal stimulation – more stomach acid via acetylcholine – activate parietal cells

Anatomical cause of hematemesis?

Dieulafoy lesion

Abnormally large artery in the lining of the GI system. Can cause life threatening hemorrhage

70 yo male presenting w/ epigastric pain, weight loss, early satiety. Supraclavicular lymphadenopathy is palpated on exam. Hgb 10.5

Dx?

Gastric adenocarcinoma

Risks

High salt diet, N-nitroso containing compounds (processed meat, tobacco), chronic h pylori, chronic autoimmune gastritis

Physical exam eponyms

Virchow's node (supraclavicular nodes)

Sister Mary Joseph's nodule (periumbilical nodule)

Tests

EGD with biopsy

Tx

Surgical resection or palliative care

High yield associations

Indicate metastatic disease

Krukenburg tumor – bilateral ovarian tumors

Leser-Trelat sign – seborrheic keratosis

Malignant acanthosis nigricans

Vascular

65 year old 35 pack year history presents with BP 80/50, severe abdominal pain radiating to the back.

AAA rupture

AAA screening age?

65

Risk factors?

Smoking!, atherosclerosis

Indications for repair?

>5.5, rapidly expanding (1 cm in 12 months)

Neuro complications?

Anterior cord syndrome

GI complications?

Ischemic bowel

What are sx of PAD?

Limb pain after walking a specific distance (vs neurogenic pain)

Tx?

Graded exercise, smoking cessation, DAPT, can consider cilostazol

Where are ulcers located?

Distal toes, risk for gangrene

Aortoiliac triad?

Leriche syndrome: hip/thigh/buttock claudication, impotence, diminished femoral pulses

He's one of the busiest men in town. While his door may say Office Hours 2 to 4, he's actually on call 24 hours a day.
The doctor is a scientist, a diplomat, and a friendly sympathetic human being all in one, no matter how long and hard his schedule.
According to a recent Nationwide survey:
MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE
DOCTORS in every branch of medicine—113,597 in all—were queried in this nationwide study of cigarette preference. Three leading research organizations made the survey. The gist of the query was—What cigarette do you smoke, Doctor?
The brand named most was Camel!
The rich, full flavor and cool mildness of Camel's superb blend of costlier tobaccos seem to have the same appeal to the smoking tastes of doctors as to millions of other smokers. If you are a Camel smoker, this preference among doctors will hardly surprise you. If you're not—well, try Camels now.
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Your "T-Zone" Will Tell You...
T for Taste...
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that's your proving ground for any cigarette. See if Camels don't suit your "T-Zone" to a "T."
CAMELS Costlier Tobaccos

Historical cigarette advertisement
Tobacco use is major cause of vasculopathy
From www.History.com

Vascular (pt 2)

60 yo with pitting edema of LE with erythema, pruritis, purpura with brown hemosiderin deposits and scaling.

Venous insufficiency

May develop lipodermatosclerosis

Ulceration in venous stasis classically at what anatomic site?

Medial malleolus

Tx?

COMPRESSION mainstay of treatment

Confirm?

US

Wikipedia/Public Domain

Endocrine

60 yo 6 hr post op from thyroidectomy develops difficulty breathing, exam shows neck mass.

Neck hematoma

2/2 to?

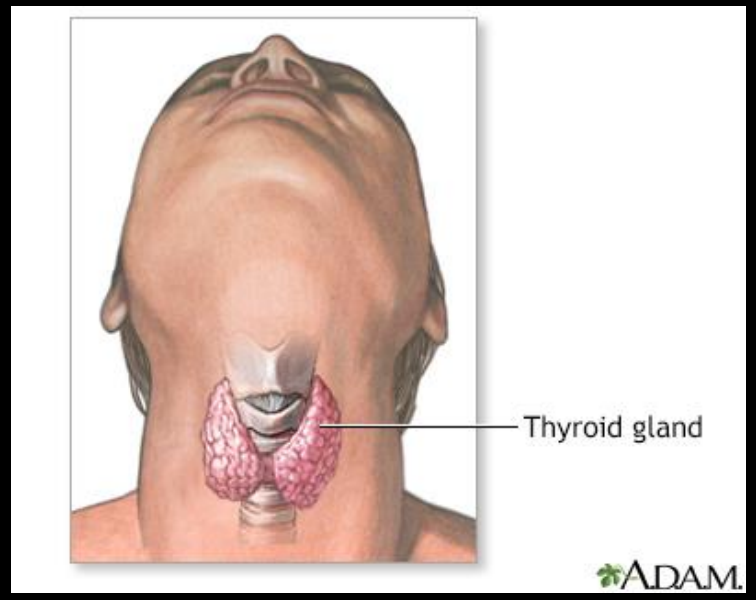
Insufficient hemostasis

Next step?

Reexploration of wound, secure airway

Other cx of thyroid surgery?

Superior laryngeal nerve injury, parathyroid injury



Mount Sinai

50 yo with thyroid nodule. No sx. Next step?

TSH

Followed by?

US

If suspicious features (oval, irregular border, calcifications >1 cm)?

FNA

Most common thyroid cx?

Papillary

More commonly hereditary?

Medullary cancer

Tx?

Surgical resection

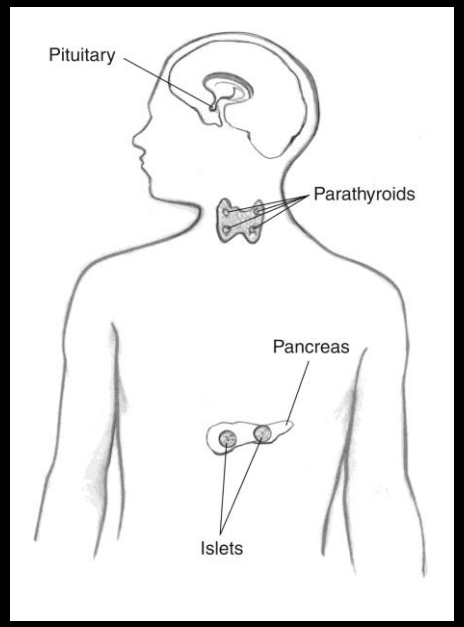
Post op medication?

T4, can monitor calcitonin in medullary cx

Endocrine

Multiple Endocrine Neoplasia 1 (MEN 1)

- 3 Ps: Parathyroid, Pituitary, Pancreatic
- Parathyroid: adenoma, hyperplasia- hypercalcemia
- Pituitary: Prolactinoma, bitemp hemianopsia
- Pancreatic: gastrinoma (ZES), VIPoma (WDHA)
- MEN1 Gene mutation, aut dominant



National Institute of Diabetes and Digestive Kidney Diseases

MEN 2

- Have increased risk medullary thyroid cx **AND** pheochromocytoma
- RET gene mutation, aut dom

MEN 2A

Medullary thyroid cx, Pheochromocytoma, parathyroid hyperplasia

MEN2B

- Medullary thyroid cx, pheo, mucosal neuroma, marfanoid habitus

From Airplane! (1980)

Chvostek sign
NEJM

Skin Cancer

75 yo M presents with rough, “gritty”, scaly plaques with hyperkeratosis over the face and scalp. He recently retired from farming.

Actinic Keratosis

This is a precursor to?

SCC

Dx?

On Boards-Bx

Tx:

cryo for small, 5-FU for multiple, imiquimod

DermNetNZ
https://dermnetnz.org/topics/actinic-keratosis

60 yr old with “cup shaped” tumor filled with keratin debris. Has grown rapidly over the last several weeks.

Keratoacanthoma

Well differentiated SCC

Tx:

Can regress on their own (on boards), we treat these as SCC in clinic (excision, curettage)

DermNetNZ
https://dermnetnz.org/topics/keratoacanthoma

Skin Cancer

Ulcerative red lesion with scaling
SCC
Second most common
Bx:
cellular pleomorphism, hyperchromatism, keratin pearls
Increased risk with?
1) Immunosuppression (oral steroid)-transplant pts
2) chronic scar/wound/burn-Marjolin ulcer
Invasive SCC:
Excision (4-6mm margins)
SCC in situ:
Excision, C&E, Cryo, 5FU, imiquimod

SCC in situ?

Bowens disease

DermNetNZ
https://dermnetnz.org/topics/cutaneous-squamous-cell-carcinoma

Waxy, pink, pearl like papules/nodules, rolled borders, can have central ulceration with telangiectasias
BCC
Most common skin cancer
Bx:
basophilic staining basal epidermal cells with palisading
Tx:
Surgical excision 4 mm margin, Mohs in high risk
Rarely metastasize
B
S

DermNetNZ
https://dermnetnz.org/topics/basal-cell-carcinoma

Skin Cancer

40 yo with symmetric, regular borders, homogenously colored, lesion since childhood. Has not increased in size.

Nevus

Cause?

Benign neoplasm of melanocytes

Can be associated with?

Hair

Progression?

Junctional (flat) to intradermal (papular)

DermNetNZ
https://dermnetnz.org/topics/melanocytic-naevus

ABCDE of Melanoma?

A: Asymmetry

B: Border irregularity

C: Color variation

D: Diameter >6mm

Evolution: changes in shape

Most important prognostic factor?

Breslow thickness (depth of invasion)

Subtypes?

Acral lentigo, nodular, superficial spreading, lentigo maligna

Dx:

requires EXCISIONAL bx-want to evaluate depth, S100 marker

WLE +/- SLNB (depending on breslow depth) +/- adjuvant chemorads (depending on SLNB)

DermNetNZ
https://dermnetnz.org/topics/melanoma

Burn

Superficial-affects, blanches, painful?

-epidermis only

-blanch, painful

Superficial partial thickness burn

-epidermis and some dermis

-blister, painful, blanchable

Deep partial thickness burn

-epidermis and some dermis

-nonblanchable, painless, perceive pressure-disrupted blood flow and nerve damage

Full thickness

-epidermis and full dermis

-nonblanchable, nonpainful, waxy/leathery appearance, perceive deep pressure

First assessment of burn patient?

ABCDE!

Burn

Rule of 9s?

Front and back of head and neck=9%, front back each arm=9%, front=18, back=18, front leg=9, back leg=9

Parkland formula used for?

Guides fluid resuscitation (first 24 hour)

Formula?

4 mL x %affected (2nd and 3rd) x weight (kg)

How do you administer?

Half in first 8 hr, rest in next 16 hr

What form of crystalloid is preferred?

LR

Why?

Prevent acidosis (chloride)

What guides resuscitation after initial management?

Urine output

How much urine output is goal?

0.5 mL/kg/h

How do we measure output?

Urine catheterization with Foley catheter!!! (do this early)

What other treatments/medications do we give severe burn patients (>10%)

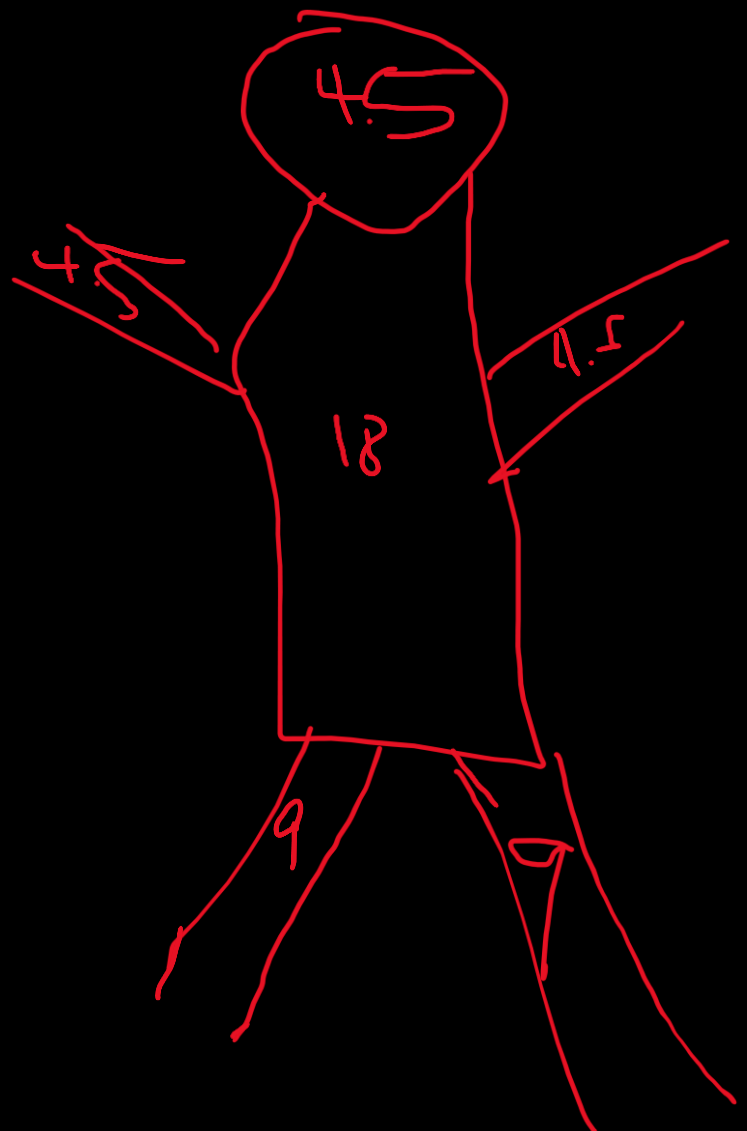
Testosterone, PPI

What kind of surgery is performed for circumferential burn?

Escharotomy

Why?

Prevent compartment syndrome



Thank you for watching!

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